

## ABSTRACT OF THE DISCLOSURE

A torque transfer system is disclosed which is particularly well-suited for use in four-wheel drive transfer cases to establish distinct two-wheel and four-wheel drive modes as well as providing an automatic ("on-demand") four-wheel drive mode. The torque through system includes a planetary gearset having a first component driven by an input member, a second component driving an output member, and a third component driven by a worm gearset. The worm gearset includes a worm gear fixed for rotation with the third component and a worm meshed with the worm gear. A variable speed motor drives the worm for varying the speed ratio between the first and third components of the planetary gearset, thereby causing a corresponding variation in the drive torque transferred from the input member to the output member.